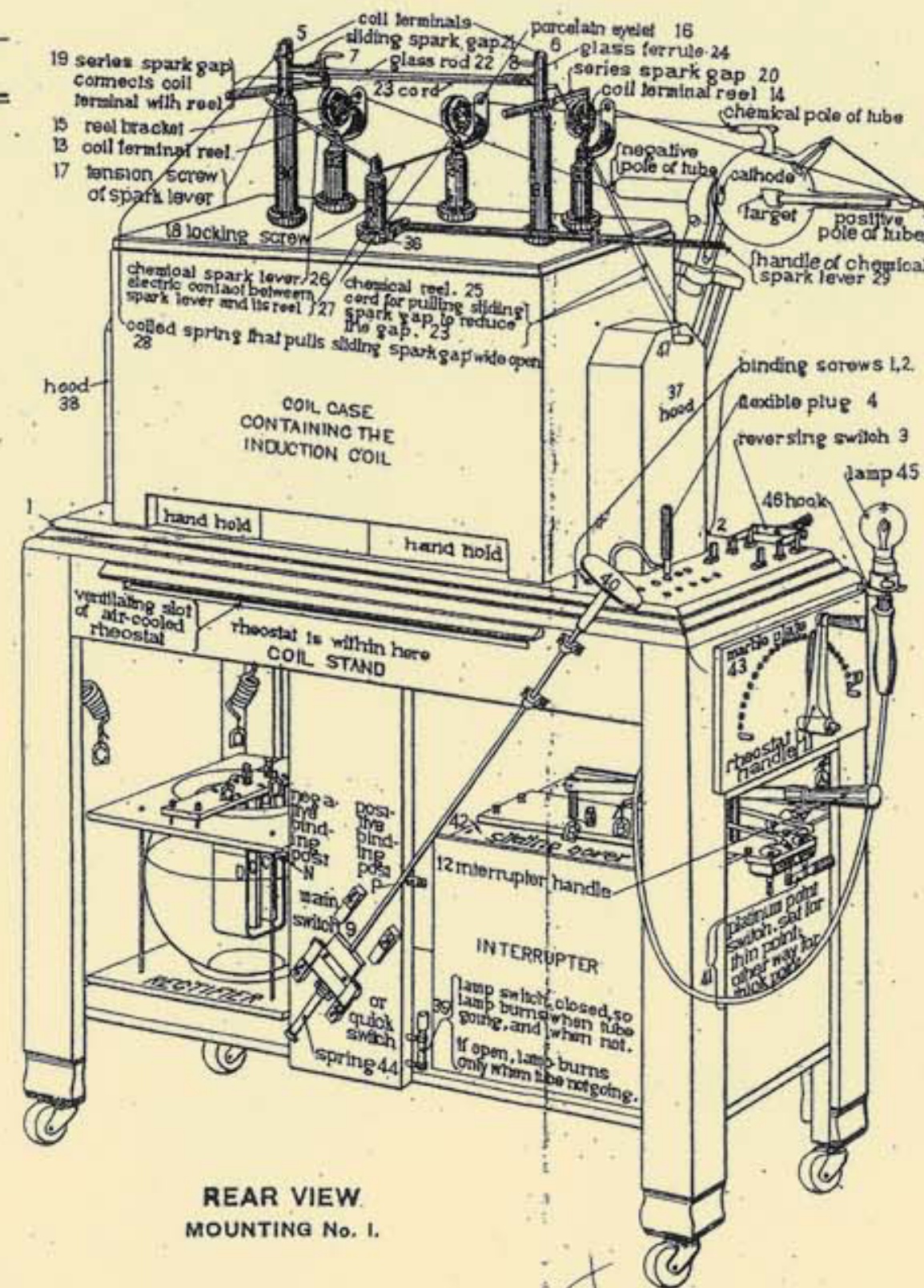


DIRECTIONS FOR OPERATING THE GROSSE FLAMME COIL

From Either the Alternating or Direct Current of 110 Volts



1st. When alternating current is used the supply transformer should have a capacity of not less than 4 k. w. in addition to any other current that may be taken from it at the time the coil is in use.

2nd. The supply transformer should be located near the building in which the coil is installed. If the same be a block or more away the potential will not be sufficient when drawing a heavy current as is required for very rapid picture work.

3rd. The wires leading from supply transformer to the room in which the coil is situated should be No. 6 B. & S., the wires leading from fuse box on wall to the coil should be No. 8, 50 ampere fuses should be used. Your local electrician will understand the importance of these suggestions.

4th. When a single cell Rectifier is used with No. 1 Mounting, the same should be placed at end of Coil Stand as indicated by the accompanying diagrams. The aluminum element connects with the wire marked "D" (front). Should a single cell Rectifier be used in conjunction with Mounting No. 3, one wire from the mains must connect to the carbon element, another wire joining the aluminum element to the binding post marked (+) plus at either end of the coil cabinet and the other binding post on cabinet marked (-) minus receives the return wire. Keep cell well filled with (near) saturate solution Rochelle Salts.

Multiple Cell Rectifier.

5th. Fill each cell 4-5 full with clean water into which 5 pounds Recteo (or Rochelle Salts) has been dissolved.

6th. Make connections by means of the brass rods as shown in diagram, being careful that all thumb screws are turned tight.

7th. The Rectifier set can be located at any convenient point, not necessarily in the same room as the X-Ray apparatus.

8th. Connect the Rectifier to the Coil Stand cabinet as shown by the accompanying diagrams, observing due care as to polarity markings; connections can be made at either end of the Rectifier set with either end of Cabinet No. 3 as may be most convenient.

NOTE—When Rectifier Cells are new or when they have been standing for some days without use their elements will require priming, which must be done by turning the current into them slowly, which is accomplished with the Coil's Rheostat as follows:

(a) Close the three-pole switch on Rectifier toward the rear.

(b) Set Rheostat of X-Ray Coil at weakest point; use Nos. 4 or 5 Inductance; middle Interrupter switch, Interrupter lever pushed downward as far as it will go.

(c) Close the main switch of the X-Ray Coil and turn the Coil's main Rheostat slowly from the weakest to the strongest point and leave it in that position for about two minutes or more (while preparing patient).

(d) Open the Coil's main switch and reset the Inductance, Rheostat and Interrupter as may be required for the work at hand.

(e) Close the three-pole Rectifier switch toward the front and proceed to operate the Coil.

(f) If your main fuse should "blow" while operating, a larger one should be used.

To Operate from the D. C. or Rectified A. C.

9th. To operate the Grosse Flamme Coil from the direct or rectified alternating current, the lead-in wires should not be smaller than No. 8 Gauge, B. & S. No. 6 will give better results, provided the wiring to your X-Ray room is not smaller than No. 6.

10th. The glass globe of the Interrupter should be filled $\frac{3}{4}$ full with a 15% to 18% sulphuric acid solution (cold).

11th. The space between the lead lining of the Interrupter box and the glass globe containing the acid electrolyte should be filled with water to cool and muffle the Interrupter while in operation.

12th. For Mounting No. 1 the Interrupter should be placed in position in the Coil Stand at Rheostat end as shown in diagram and the spiral wires at either corner of the Coil Stand must be connected firmly to the binding posts on the Interrupter directly below each of the wires, connecting "A" to "A" and "B" to "B" as shown in the diagram.

13th. Connect positive wire of main line (or from Rectifier) to binding post at rear of Coil Stand marked "P" and negative wire to binding post marked "N". This is very important, as Coil cannot work right if these wires are connected wrong, as the current must flow from the Platinum Points of the Interrupter to the lead element of same and the instrument will not work if so connected that the current flows in the opposite direction.

The pole changing switch does not change the polarity at this point.

14th. Connect Tube to Coil as shown in cut and note that the position of the "reversing switch 3," and "chemical spark lever 26" are as illustrated.

15th. Should the Tube be connected in reverse position, switch "3" must be reversed and lever "26" thrown over so that it will take sparks from the metal top of post "31" (instead of post "30").

16th. Should Ray Proof Cabinet Mounting No. 3 be used the Interrupter should be placed in position as shown by the accompanying diagram and the spiral wires just inside the cabinet will be in proper position for connection with the two binding posts on the Interrupter. See to it that the thumb screws on all binding posts are screwed down tightly to make good electrical connections.

17th. Connect positive wire from main line (or from Rectifier) to binding post marked positive at either end of the coil cabinet, as may be most convenient. (See diagram).

18th. The current can be taken off at either end of Rectifier as may be most convenient, being careful as to correct polarity.

19th. The inductance switches on No. 3 cabinet must all be open except the one in use; the Coil will not work if two or more of these switches are closed.

20th. When Multiple Point Interrupter is employed, the number of points to be used at once will depend upon the inductance selected and the strength of current used; for example, in giving Therapeutic treatments, one point would be used with Inductance

No. 1 and Rheostat nearly to its weakest point, whereas for quick picture work Nos. 4 or 5 inductance may be used with four or more Interrupter points and Rheostat nearly or quit to its strongest point.

21st. For instructions in detail for the operation of K. K. Multiple Point Interrupters, refer to Catalogue No. 19, pages 55 to 59 inclusive.

22nd. For Therapeutic treatment use low vacuum treatment Tubes that are soft enough to be energized when using No. 1 or No. 2 inductance, single Interrupter point and Rheostat nearly or quite to its weakest point. Hard Tubes, such as are best for picture making, should not be used for Therapeutic treatments.

23rd. For picture making use No. 4 or No. 5 inductance, three to six Interrupter points, Rheostat nearly or quite to its strongest point.

24th. Learn the individual peculiarities of each of your X-Ray Tubes so that you can flash a very strong current into them quickly, thereby making the exposure before the Tube has time to become excessively hot.

25th. Do not jockey with the Tube by reducing its vacuum with weak currents and testing it with a Fluoroscope, as by so doing it will become excessively hot and its vacuum will lower prematurely and your picture will be a failure.

26th. Tubes that show multiple hemispheres or false rings in them cannot be used successfully except in series with a Valve Tube.

27th. To throw maximum flame a main spark gap of Coil use inductance No. 4, Rheostat to strongest point with enough Interrupter Platinum exposed to pass sufficient current.